E/CONF.39/D/75
SUMMARY
10 Oct.1962
ORIGINAL : ENGLISH

UNITED NATIONS CONFERENCE
ON THE APPLICATION OF SCIENCE AND TECHNOLOGY
FOR THE BENEFIT OF THE LESS DEVELOPED AREAS

SUMMARY

Agenda Item: D

United Kingdom

DIFFICULTIES OF MECHANIZATION IN LESS-DEVELOPED AREAS

BY S.J. WRIGHT, M.A.,
Agricultural Adviser,
Tractor Group,
Ford Motor Co., Ltd.

Papers have been contributed to the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas as working papers for that Conference. They are published as presented by the contributors, and the contents and the views expressed are those of the contributors. (See notes overleaf.)

NOTES

1. Papers selected for inclusion in General Sessions will be available at the Conference in the following official languages of the United Nations: English, French, Russian and Spanish.

2. Papers selected for inclusion in Specialized Sessions will be available at the Conference in only one of the above official languages.

3. Summaries of all papers, as submitted by contributors, will be available at the Conference in the following official languages of the United Nations: English, French, Russian and Spanish.

4. Papers and summaries will not be available for general distribution in advance of the Conference. They will be published in advance in limited quantities only for the use of delegations of participating governments and of other authorized participants. Post-Conference publication and general distribution of the Conference Proceedings will follow United Nations practices as laid down by the United Nations Publications Board.

DIFFICULTIES OF MECHANIZATION IN LESS-DEVELOPED AREAS

by S.J. Wright, M.A.
Agricultural Adviser, Tractor Group, Ford Motor Co. Ltd.

SUMMARY

Three aspects of agricultural mechanization are considered: land-use mechanization, which is likely to involve fleets of heavy equipment; ordinary farm mechanization, which is limited to farms or enterprises large enough to afford ordinary equipment; and mechanization in the much wider sense of whatever can be done to bring mechanical aids to the service of the very small peasant farms which, in most less-developed areas, will account for the greater part of all farm land.

In these areas, where labour is commonly plentiful, mechanization can be justified, if at all, only by higher production of food or fibre. Opportunities to do this by winning additional farm land are limited. Almost everywhere, far greater opportunities will lie in overcoming whatever factors may limit the productivity of the land already being farmed. One factor, which leads to poor crops through untimely sowing or inadequate weed control, is the very limited work output of the peasant's pair of draught animals. They cannot pull very much; they are slow-moving; and they need to stop frequently for rest or watering. In many cases, to overcome this limitation would need only a very primitive tractor.

Against this background, there is one all-embracing difficulty: that in less-developed areas mechanization costs too much. On the one hand, there are the relatively high capital costs of equipment which limit individual ownership to a very small proportion of farmers. On the other, there are the high operating costs which arise from inexperienced usage, high incidence of breakdowns and repairs, and too-rapid depreciation.

Difficulties over capital costs are accentuated by the fact that, mainly to meet labour-saving requirements in their countries of origin, the simplest of modern tractors has been a great deal elaborated: not only by comparison with the very simple requirements of small-scale peasant farmers; but even by comparison with the tractors which were commonly used in now more-developed countries thirty years ago. If simpler, and potentially less-costly, tractors like these were still available many more farmers in less-developed areas would be able to afford to provide themselves with mechanical power. They have gone out of production only because in the more-sophisticated markets in which nine-tenths of all tractors are sold, they are no longer needed. If manufacturers, or even one manufacturer, could be convinced that the

'live' market in less-developed countries is large enough, they could be reintroduced.

But even if less-costly equipment can be made available in this way, mechanization which is spread widely enough to raise overall living standards appreciably can only be accomplished by organisational means: by the provision of Government contract services; by the encouragement of village contractors; or by the development of schemes in which groups of farmers share the services of jointly-owned equipment.

In general, the circumstances which lead to high operating costs can be overcome only by education and practical training at all levels from graduates to tractor drivers; even so, some of the required qualities can only be developed through real experience. In order to provide enough men of the right calibre not only to overcome present mechanical difficulties, but also to bring organisational methods of extending mechanization to fruition, something more than an extension of conventional training schemes will be needed.

Finally, a type of scheme in which both practical and higher training, and pilot experiments in extended mechanization, might be combined is outlined. This is based on an existing training scheme, which is described in some detail; but would be located in a district of small-scale farming which, in the long run, it would aim actually to mechanise. If, as in the existing scheme, the direct interest of manufacturers could be enlisted, one outcome might be a fuller realisation of the needs of small-scale farmers in less-developed areas.

S - 844 E - Oct.1962 - 1,600